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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,745	08/28/2003	Jyunichi Nakamura	060914-0117-US	5720
9629	7590	01/26/2006	EXAMINER	
MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004			WILLIAMS, ALEXANDER O	
			ART UNIT	PAPER NUMBER
			2826	

DATE MAILED: 01/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/649,745	Applicant(s) NAKAMURA ET AL. <i>at</i>	
	Examiner Alexander O. Williams	Art Unit 2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2006 and 08 December 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 12, 14, 15 and 22-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-26 is/are allowed.
- 6) ☒ Claim(s) 1, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/281163.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Serial Number: 10/649745 Attorney's Docket #: 060914-117-US
Filing Date: 8/28/2003; claimed foreign priority to 10/31/2001

Applicant: Nakamura et al.

Examiner: Alexander Williams

This application is a divisional application of serial # 10/281163, filed 10/28/02.
This application is now U.S. Patent # 6,759,739.

Applicant's RCE filed 1/13/06 has been acknowledged

Applicant's Amendment filed 12/8/05 has been acknowledged.

Applicant's election without traverse of the species of figures 1, 2 and 8 (claims 1, 12, 13, 14 and 15), filed 9/22/04, has been acknowledged. However, claim 15 depends from a nonelected claim 5 and will not be examined. Claims 1, 12-14 and newly added 22-26 was examined.

This application contained claims 5, 6, 7, 8, 15 and 16 to 21 drawn to an invention non-elected without traverse.

Claims 2-11, 13 and 16-21 have been canceled. Note: Applicant's claim listing, filed 12/8/05 have claims 2-11, 13 and 16-22 cancelled.

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/281163, filed on 10/28/02.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Initially, it is noted that the 35 U.S.C. § 103 rejection based on pads and bumps deals with an issue (i.e., the integration of multiple pieces into one piece or conversely, using multiple pieces in replacing a single piece) that has been previously decided by the courts.

In Howard v. Detroit Stove Works 150 U.S. 164 (1893), the Court held, "it involves no invention to cast in one piece an article which has formerly been cast in two pieces and put together...."

In In re Larson 144 USPQ 347 (CCPA 1965), the term "integral" did not define over a multi-piece structure secured as a single unit. More importantly, the court went further and stated, "we are inclined to agree with the solicitor that the use of a one-piece construction instead of the [multi-piece] structure disclosed in Tuttle et al. would be merely a matter of obvious engineering choice" (bracketed material added). The court cited In re Fridolph for support.

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In re Fridolph 135 USPQ 319 (CCPA 1962) deals with submitted affidavits relating to this issue. The underlying issue in In re Fridolph was related to the end result of making a multi-piece structure into a one-piece structure. Generally, favorable patentable weight was accorded if the one-piece structure yielded results not expected from the modification of the two-piece structure into a single piece structure.

Claims 1, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamoi (Japan Patent Application # 11-74649).

1. For example, Kamoi (figures 1 to 2d) specifically figure 1 show a multilayered substrate **1** for a semiconductor device, comprising: a multilayered substrate body **1** formed of a plurality of conductor layers **2** and insulation layers **1a, 1b**, and having a face for mounting a semiconductor element **5** thereon and another face for external connection terminals **3b**, the face for mounting a semiconductor element with comprising pads **3a, 7** through which the substrate is connected to an external electrical circuit, wherein a reinforcing sheet joined to each of the face for mounting the semiconductor element thereon and the face for external connection terminals comprising pads **3b** for mounting an external electrical circuit, wherein a reinforcing sheet **6a, 6b** is joined to each of the face for mounting a semiconductor element thereon and the face for external connection terminals of the multilayered substrate body, and wherein the pads provided at the face for mounting a semiconductor element **5** thereon are in the form of a bump **3a, 7** so that the tip of the pads protrude from the face for mounting a semiconductor element of the multilayered substrate body.

Therefore, it would have been obvious to one of ordinary skill in the art to use the combination of the bumps with pads and the pad protrudes from the face as "merely a matter of obvious engineering choice" as set forth in the above case law.

Claims 22-26 are allowed.

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Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response

Applicant's arguments filed 12/8/05 have been fully considered, but are not found to be persuasive in view of the modified grounds of rejections detailed above. Applicant's arguments stating "The Examiner states that Kamoi in Figures 1 to 2d show the device of claim 1, wherein a reinforcing sheet 6a,6b is joined to each of the face for mounting a semiconductor element therein and the face for external connection terminals. Applicants respectively disagree" is not found to be persuasive. Weber's Dictionary defines "reinforcing a to give more force to effectiveness to: strength. To strengthen militarily with supplementary manpower to material. To strengthen, as by adding extra support or padding. To increase in number." Weber Dictionary defines "sheet as a broad flat continuous material." Therefore, a reinforcing sheet can be defined as a supporting broad flat continuous material. Applicant's claim 1 claims no particular structure or particular material in which the reinforcing sheet in which the material is made. Any added material can be some level of reinforcing sheet. Therefore, Kamoi's reinforcing sheet 6a,6b can be refined to be this claimed reinforcing sheet as detailed in the rejection above.

Applicant's argument stating "Further, the solder bump 7 in Kamoi, which has regards as a bump-like pad, appear to be fixed on the semiconductor element 5" is not found to be persuasive. Applicant claims "the pads provided at the face for mounting a semiconductor element thereon are in the form of a bump so that the tip of the pads protrude from the face for mounting a semiconductor element of the multilayered substrate body." Kamoi's pad and bump combination provided at the face for mounting a semiconductor element thereon are in the form of a bump portion so that the tip of the pads portion protrude from the face for mounting a semiconductor element of the multilayered substrate body. Therefore, the combination of Kamio's pad and bump show the claimed pad structure.

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The listed references are cited as of interest to this application, but not applied at this time.

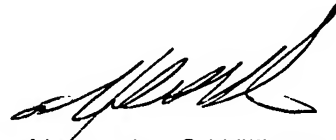
Field of Search	Date
U.S. Class and subclass: 257/700,701,758,790,698,704,707,710,680,774,712,7137 20,787,788,737,738,717	12/3/04 5/25/05 9/6/05 1/20/06
Other Documentation: foreign patents and literature in 257/700,701,758,790,698,704,707,710,680,774,712,7137 20,787,788,737,738,717	12/3/04 5/25/05 9/6/05 1/20/06
Electronic data base(s): U.S. Patents EAST	12/3/04 5/25/05 1/21/06

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander O Williams whose telephone number is (571) 272 1924. The examiner can normally be reached on M-F 6:30 AM -7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272 1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alexander O Williams
Primary Examiner
Art Unit 2826

AOW
1/21/06